I/WE CLAIM

1. In a dishwasher including a tub having bottom, opposing side, rear and top walls which collectively define a washing chamber adapted to receive and cleanse soiled kitchenware by spraying washing fluid onto the kitchenware from at least one wash arm, a pump and filtration assembly comprising:

a housing mounted at an opening provided in the bottom wall of the tub, said housing including a first plate portion sealed to the bottom wall about the opening, a second plate portion and a cap portion, said first and second plate portions being spaced to define an intake chamber of the housing, said second plate portion and said cap portion being spaced to define a pumping chamber of the housing;

at least one drive member extending through each of the first and second plate portions;

a chopper blade disposed in the intake chamber and drivingly connected to the at least one drive member;

an apertured plate positioned between the washing chamber and the pumping chamber adjacent the chopper blade;

a pumping unit arranged in the pumping chamber, said pumping unit including an impeller drivingly connected to the at least one drive member for directing washing fluid to the wash arm;

a conduit leading from the housing and fluidly interconnecting the pumping chamber with the wash arm;

a sampling port fluidly connected to the conduit for sampling a portion of the washing fluid being delivered to the at least one wash arm;

a filter chamber connected to the conduit for receiving the portion of the washing fluid flowing through the sampling port, said filter

chamber including at least one enlarged opening provided with a fine mesh filtering screen for entrapping soil from the washing fluid in the filter chamber, while permitting cleansed washing fluid to be directed back into the washing chamber;

a drain passage positioned below the sampling port in the filter chamber; and

a sealing member arranged below the sampling port at the drain passage, said sealing member being acted upon by the portion of the washing fluid flowing through the sampling port to close off the drain passage during a wash portion of a washing operation, and opening the drain passage during a drain portion of the washing operation.

2. In a dishwasher including a tub having bottom, opposing side, rear and top walls which collectively define a washing chamber adapted to receive and cleanse soiled kitchenware by spraying washing fluid onto the kitchenware from at least one wash arm, a pump and filtration assembly comprising:

a housing mounted at an opening provided in the bottom wall of the tub, said housing including an intake chamber and a pumping chamber;

a conduit leading from the housing and fluidly interconnecting the pumping chamber with the wash arm;

a sampling port fluidly connected to the conduit for sampling a portion of the washing fluid being delivered to the at least one wash arm;

a filter chamber connected to the conduit for receiving the portion of the washing fluid flowing through the sampling port;

a drain passage positioned below the sampling port in the filter chamber; and

a sealing member arranged below the sampling port at the drain passage, said sealing member being acted upon by the portion of the washing fluid flowing through the sampling port to close off the drain passage during a wash portion of a washing operation, and opening the drain passage during a drain portion of the washing operation.

3. The pump and filtration assembly according to claim 2, wherein the sealing member is constituted by a positive pressure valve such that washing fluid being directed through the sampling port impinges upon the valve to close the drain passage.

4. The pump and filtration assembly according to claim 3, wherein the positive pressure valve is constituted by a check ball.

5. The pump and filtration assembly according to claim 4, wherein the check ball is buoyant.

6. The pump and filtration assembly according to claim 4, further comprising: a check ball chamber positioned between the sampling port and the drain passage, said check ball chamber being adapted to retain the check ball below the sampling port.

7. The pump and filtration assembly according to claim 2, wherein the sealing member is constituted by a diaphragm valve fixedly secured in a valve chamber.

8. The pump and filtration assembly according to claim 7, wherein the diaphragm valve includes a bellows for closing off the drain passage.

9. The pump and filtration assembly according to claim 8, wherein the diaphragm valve includes a plurality of bypass ports arranged about the bellows, said bypass ports enabling the diaphragm valve to be internally pressurized in order to seal the drain passage.

10. The pump and filtration assembly according to claim 9, wherein the diaphragm valve includes four bypass ports arranged about the bellows.

11. In a dishwasher including a tub having bottom, opposing side, rear and top walls which collectively define a washing chamber adapted to receive and cleanse soiled kitchenware by spraying washing fluid onto the kitchenware from at least one wash arm, a pump and filtration assembly comprising:

a housing mounted at an opening provided in the bottom wall of the tub, said housing including an intake chamber and a pumping chamber;

a conduit leading from the housing and fluidly interconnecting the pumping chamber with the wash arm;

a sampling port fluidly connected to the conduit for sampling a portion of the washing fluid being delivered to the at least one wash arm;

a filter chamber connected to the conduit for receiving the portion of the washing fluid flowing through the sampling port;

a drain passage positioned below the sampling port in the filter chamber; and

means for sealing the drain passage during select portions of a washing operation.

12. The pump and filtration assembly according to claim 11, wherein the sealing means is constituted by a positive pressure valve such that washing fluid being directed through the sampling port impinges upon the valve to close the drain passage.

13. The pump and filtration assembly according to claim 12, wherein the positive pressure valve is constituted by a check ball.

14. The pump and filtration assembly according to claim 13, wherein the check ball is buoyant.

15. The pump and filtration assembly according to claim 13, wherein the sealing means further comprises a check ball chamber positioned between the sampling port and the drain passage, said check ball chamber being adapted to retain the check ball below the sampling port.

16. The pump and filtration assembly according to claim 11, wherein the sealing means is constituted by a diaphragm valve fixedly secured in a valve chamber.

17. The pump and filtration assembly according to claim 16, wherein the diaphragm valve includes a bellows for closing off the drain passage.

18. The pump and filtration assembly according to claim 17, wherein the diaphragm valve includes a plurality of bypass ports arranged about the bellows, said bypass ports enabling the diaphragm valve to be internally pressurized in order to seal the drain passage.

19. The pump and filtration assembly according to claim 9, wherein the diaphragm valve includes four bypass ports arranged about the bellows.

20. A method of operating a dishwasher comprising:

drawing washing fluid from within a washing chamber defined in a tub of the dishwasher into a pump housing;

initially entrapping soil particles prior to directing the washing fluid to a pumping unit;

pumping at least a majority of the washing fluid to upper and lower wash arms for spraying onto kitchenware being washed in the dishwasher;

diverting a portion of the washing fluid into a filter chamber through a sampling port, said filter chamber having a filtering screen and a drain passage;

sealing the drain passage during a washing operation to cause washing fluid to flow through the filtering screen back into the washing chamber while soil in the portion of the washing fluid is trapped in the filter chamber;

ceasing a recirculation operation of the pump unit; and

unsealing the drain passage to cause washing fluid and soil particles to flow downward out of the filter chamber.

21. The method of claim 20, wherein the drain passage is sealed by the portion of the washing fluid diverted into the filter chamber.

22. The method of claim 21, wherein the drain passage is sealed by impinging the portion of the washing fluid upon a buoyant valve positioned above the drain passage.